

ARISTIDAE ELUDENDAE: *ARISTIDA HITCHCOCKIANA* (POACEAE)—A VALID SPECIES?

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ABSTRACT

The original descriptions and prologues, type specimens, and available material of *Aristida hitchcockiana* Henrard and *A. appressa* Vasey were compared. Based on morphology, distribution, and habitat, there seems to be no reason to recognize *A. hitchcockiana* as a valid species, and it is synonymized within *A. appressa*.

RESUMEN

Se compararon las descripciones y protólogos originales, ejemplares tipo, y demás material disponible de *Aristida hitchcockiana* Henrard y *A. appressa* Vasey. Basándose en la morfología, la distribución geográfica, y el hábitat, parece no haber indicios suficientes para reconocer como especie válida a *A. hitchcockiana*. Por lo tanto, se la sinonimiza a *A. appressa*.

Aristida hitchcockiana was described in 1927 by J.T. Henrard, in his monumental "A Critical Revision of the Genus *Aristida*" (Henrard 1926, 1927, 1928). His new species was described and illustrated as having long narrow panicles, subequal glumes, the second truncate or emarginate, and unequal awns (Fig. 1). In his earlier work on the North American species of *Aristida*, A.S. Hitchcock included the type-to-be of *A. hitchcockiana* within *A. arizonica* (Hitchcock 1924). Accordingly, Henrard called attention to the shorter spikelets and awns, and truncate, emarginate glumes of *A. hitchcockiana* as compared to *A. arizonica*. The new species was known only from the original description and from the type collection at Las Sedas, Oaxaca, México (Hitchcock 1935), and largely ignored or not relevant to subsequent works on Mexican *Aristida* until Beetle's Las Gramineas de México (Beetle 1983), in which he recorded the species from seven states in México. I do not know to which plants he applied the name, only that the illustration is at variance with both Henrard's and Beetle's own descriptions, in that it shows an open panicle with spreading branches and pedicels, acuminate glumes, and long equal awns. In these publications and in Henrard's prodigious "A Monograph of the Genus *Aristida*" (Henrard 1929, 1932, 1933), *A. hitchcockiana* was compared most closely to *A. arizonica*, from which it was distinguished by having longer glumes, lemmas, and awns, but which belied its more obvious similarities.

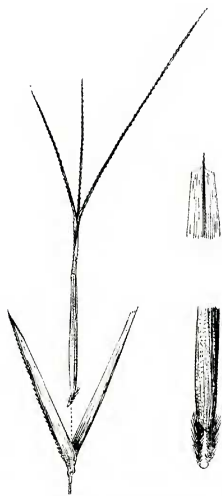


FIG. 1. Spikelet, 2nd glume apex, and callus of *Aristida hitchcockiana* [from Henrard (1932)].

A comparison of *Aristida hitchcockiana* with *A. appressa* Vasey (Fig. 2), based on original descriptions, type material, and specimens, failed to reveal any morphological characters by which to distinguish them (Table 1). For Henrard, the single most diagnostic feature of *A. hitchcockiana* was the truncate and shortly awned apex (the "curious tip") of the second glume, clearly illustrated in the original description and relied upon solely and explicitly in the keys of his Monograph (Henrard 1932, p. 237). This feature is seen clearly in the type, but even there, some of the second glumes are acutish and not very truncate. Examination of nearly 100 specimens of *A. appressa* showed a nearly complete gradation from glumes with truncate and shortly awned apices, through a series with progressively longer awns and more narrow apices, to the other extreme of glumes with long awns, acuminate apices, and noticeable lateral setulae. The truncate apex can be easily overlooked or obscured when the glume is folded or rolled. Perhaps this has led to the characterization of the glumes of *A. appressa* as being acute or acuminate (Henrard 1932; Beetle 1983),

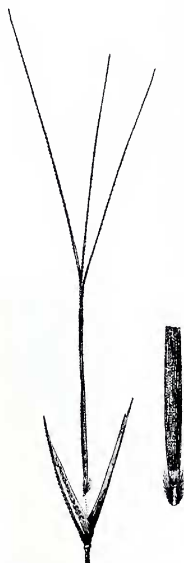


FIG. 2. Spikelet and callus of *Aristida appressa* [from Henrard (1932)].

when in fact obtuse to truncate glume apices are frequently encountered in that species as well. In addition, I could find no correlation of this condition (a truncate apex) to any other feature. Both species develop long internodes (longer than the sheaths), a line of hairs across the collar (represented by a rim in older material, or glabrate), noticeably long hairs above the ligule on the upper surface of the blade, and lateral awns shorter than the central awn.

Henrard (1929) called particular attention to the "very curious crisp pubescence" of the culms, panicle branchlets, and lower glumes of *Aristida appressa*. This is caused by a scaberulous type of pubescence, usually in lines along the ridges or nerves of the afore-named parts. It is well-expressed in the type of *A. appressa*, but much less so in many other specimens, and can commonly be absent. This same scaberulous pubescence is found in the type of *A.*

TABLE 1. Comparison of *Aristida hitchcockiana* and *A. appressa*.

Feature	<i>Aristida hitchcockiana</i> , type	<i>Aristida appressa</i>
Culm height (cm)	75	40–120
Peduncle length (cm)	13	10–40
Internode pubescence	glabrous	glabrous to puberulent
Middle sheath length (cm)	6–10	4–11
Sheath pubescence	glabrous to scaberulous	glabrous to scaberulous
Ligule length (mm)	0.2	0.1–0.2
Auricle region	flaring, ciliolate, with hairs to 2.8 mm	flaring, ciliolate to glabrate, often with hairs to 3 mm
Collar	scaberulous in a line	glabrous to scaberulous in a line
Longest blade length (cm)	17	14–30
Blade width when flat (mm)	1.8–2.0	1.5–2.5
Blade involution	flat, appearing to be rolled due to drying	convolute when young, flat & curling when mature
Blade margin	slightly thickened	slightly thickened
Blade upper pubescence	puberulent/scaberulous with scattered long hairs near ligule	puberulent/scaberulous with scattered long hairs near ligule
Panicle length (cm)	17–24	14–30
Lower branch length (cm)	4–6	5–12
Pulvini	absent	absent
First glume length (mm)	8–10	5–12
First glume apex	acute	truncate to acuminate
Second glume length (mm)	9–11	6–12
Second glume apex	truncate to acute	truncate to acute
Glume pubescence	scaberulous on the nerves	glabrous to scaberulous on the nerves
Lemma length to awns (mm)	11–12	7–13(–16)
Lemma vestiture	glabrous in the lower part, scaberulous in the upper	glabrous in the lower part, scaberulous in upper
Lemma beak	slightly exceeding the glumes	equal to much exceeding the glumes
Callus length (mm)	0.6–0.8	0.6–1
Central awn length (mm)	12–15	15–22
Lateral awn length (mm)	6–9	7–17

hitchcockiana, on culm internodes, branchlets, and the lower glumes. This feature has the same degree of inconsistency as the truncate glume apex: ranging from noticeably present to absent.

Henrard's holotype came from Las Sedas, Oaxaca, México (approximately 100 km northwest of the city of Oaxaca on highway 131, at N17.3523° W96.9444°), collected by Charles L. Smith sometime in 1894. The village was a former railroad station, and sits at about 2100 m in a pine-matorral transition zone, a common elevation and habitat for *Aristida appressa*. *Aristida appressa* is found in

all the surrounding states (Chiapas, Veracruz, Puebla, Guerrero), as well as in Oaxaca itself.

The basis for *Aristida hitchcockiana* seems to be simply one end of a single line of variation. Its recognition is partly an artifact of observation: noticed in a few plants where the glumes are not folded or rolled, but overlooked in other plants where the glume apices are obscured. It lacks any distinctive morphology, distribution, or habitat. For these reasons, the name *A. hitchcockiana* Henrard is subsumed without recognition under the older name *A. appressa* Vasey, as detailed below.

Aristida appressa Vasey, Contr. U.S. Natl. Herb. 1(8):282. 1893. TYPE: MÉXICO, JALISCO: Guadalajara, 1886, *E. Palmer* s.n. (HOLOTYPE: US-745676; ISOTYPES: L. fragm., W).

Aristida hitchcockiana Henrard, Meded. Rijks-Herb. Leiden No. 54A:233–234. 1927. TYPE: MÉXICO, OAXACA: Las Sedas, 1894, *C.L. Smith* 918 (HOLOTYPE: US-991670).

Selected specimens examined (of 76 total): **COSTA RICA, Guanacaste:** 4 km W of the Inter-American Hwy on the road to Murciélago, 320 m, 24 Oct 1968, *R. Pohl* 11324 (F). **EL SALVADOR, Chalatenango:** along Hwy 4, 4 km SSE of La Palma, pine forest, 950 m, 11 Jun 1970, *R. Pohl* 11890 (F). **GUATEMALA, Chimaltenango:** near Rio Pixcayo, oak and pine forest, 1650–188 m, 3 Feb 1939, *P. Standley* 64492 (F). **Huehuetenango:** about Laguna de Ocubila, F of Huehuetenango, 1900 m, 7 Jan 1941, *P. Standley* 82725 (F). **HONDURAS, Comayagua:** half-way between Comayagua and Villa San Antonio, 25 Jan 1936, *W. Archer* 3841 (US). **El Paraíso:** grassy pine forest of Cuesta Galeras road to Guinope, 1400 m, 24 Nov 1970, *A. Molina* R. 25913 (US). **Morazán:** open hillside, Sta. Clara Creel, Rio Yeguane Valley, 800 m, 17 Dec 1946, *L. Williams* 11259 (G); region of Las Mesas, steep pine-wooded slopes, 800–900 m, 14 Oct 1951, *J. Swallen* 10740 (US). **MÉXICO, Chiapas:** steep rocky slope with *Quercus* along Mexican Hwy 190 in the Zinacantan paraje of Muctajoc, 3500 ft, 17 Aug 1965, *D. Breedlove* 11869 (F); 11 km W of Tuxtla Gutierrez in rolling hills, 24 Oct 1973, *F. Gould* 14433 (NMCR). **Distrito Federal:** Villa Guerrero, 21 Oct 1960, *T. Tateoka* 1139 (US). **Guerrero:** Manchon, 26 Sep 1936, *G. Hinton* 9593 (MO). **Guanajuato:** about 6 km east of Guanajuato, rocky soil on an eroded hillside, 17 Oct 1952, *E. Sohns* 312 (US); km 40, Guanajuato City–Dolores Hidalgo, 15 Sep 1946, *E. Hernandez Xolocotzi* 2445 (US); Sta. Cruz de Jventino Rosas rumbo a Guanajuato, 1 Sep 1981, *A. Beetle* 7359 (MO). **México:** 1.7 km W of Tejupilco on Mexican Hwy 134 towards Tamasaltepec, 1430 m, 6 Oct 1991, *P. Peterson* 11058 (NMCR). **Oaxaca:** Las Sedas, in 1894, *Chas. L. Smith* 918 (US-type); 4.8 km e of Mitla on Mexican Hwy 179 towards Ayutla, gentle slopes near small creek and cultivated fields, 1760 m, 14 Sep 1990, *P. Peterson* 9861 (NMCR); NE of Oaxaca, 13 km N of El Punto on Mexican Hwy 175 and 10.8 km S of Guelatao, 1970 m, 17 Sep 1990, *P. Peterson* 9936 (NMCR); 151 km SW of Oaxaca on Mexican Hwy 190, oak woods, 1100 m, 15 Oct 1976, *J. Brunken* 369 (MO); from Tamasaltepec to San Ildefonso de Villa Alta proper, on open and rocky mountain slopes, 29–30 Oct 1944, *J. Vera Santos* 3543 (US); savanna near Revolucion Mexicana, 800 m, 3 Nov 1981, *D. Breedlove* 54518 (G). **Puebla:** near Cholula, around the Cholula pyramid and Church Nuestra Señora de la Remedios, 14 Dec 1972, *A. Beetle* 2276 (MO). **Veracruz:** 3 km al N de Chacalapa, 400 m, 26 Sep 1965, *J. Rzedowski* 21211 (F).

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